

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**AP20 Rec'd PCT/PTO 13 JUL 2006**

In re the Application of

Clayton PRICE

Attn: PCT Branch

Application No. New U.S. National Phase of PCT/EP2005/000224

Filed: July 13, 2006

Docket No.: 118649

For: ANTI-FOULING COMPOSITIONS COMPRISING A POLYMER WITH SALT GROUPS

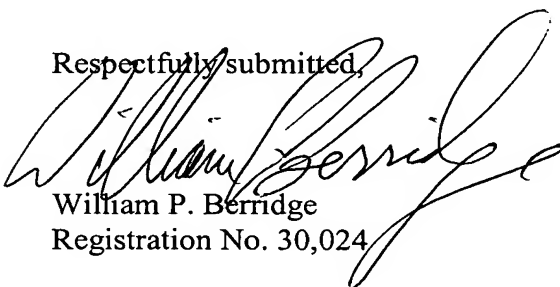
**TRANSMITTAL OF THE ANNEXES TO THE  
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Attached hereto are the annexes to the International Preliminary Report on Patentability (Form PCT/IPEA/409). The attached material replaces the material in the specification and claims at page 12, line 1 (starting with the words "water-insoluble film-forming polymer") and at page 23, line 1 (starting with the words "4. A coating composition according to claim 3").

Respectfully submitted,



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water-insoluble film-forming polymer. The ratio of the rosin binder material to the polymer comprising salts of amine-functional groups and/or salts of phosphine-functional groups and optionally one or more other film-forming resins influences the strength of the paint film and/or the reliable eroding of the rosin-based paint matrix.

According to a preferred embodiment of the invention, the antifouling paint has a binder comprising a blend of a rosin material and an auxiliary film-forming resin in a weight ratio of 20:80 to 95:5, the auxiliary film-forming resin comprising 20-100% by weight of a film-forming polymer (A), which is the salt group-comprising polymer having salts of amine-functional groups and/or salts of phosphine-functional groups bound (pendant) to the backbone of the polymer, said salts comprising as counter-ion the anionic residue of an acid having an aliphatic, aromatic, or alkaryl hydrocarbon group comprising at least 5, preferably at least 6 carbon atoms, and ~~up to 20%~~ **up to 80%** of a non-hydrolysing, water-insoluble film-forming polymer (B).

The rosin material which can be added as binder material to a composition comprising the polymer comprising salts of amine-functional groups and/or salts of phosphine-functional groups preferably is rosin, more particularly wood rosin or alternatively tall rosin or gum rosin. The main chemical constituent of rosin is abietic acid. The rosin can be any of the grades sold commercially, preferably that sold as WW (water white) rosin. The rosin material can alternatively be a rosin derivative, for example a maleinised or fumarised rosin, hydrogenated rosin, formylated rosin or polymerised rosin, or a rosin metal salt such as calcium, magnesium, copper or zinc rosinate.

The non-hydrolysing, water-insoluble film-forming polymer (B) can for example be a vinyl ether polymer, such as a poly(vinyl alkyl ether) or a copolymer of a vinyl alkyl ether with vinyl acetate or vinyl chloride, an acrylate ester polymer such as a homopolymer or copolymer of one or more alkyl acrylates or methacrylates which preferably contain 1 to 6 carbon atoms in the alkyl group

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4. A coating composition according to claim 3, characterised in that the anionic residue comprises 5 to 50 carbon atoms.
5. A coating composition according to claim 3 or 4, characterised in that the polymer, or a mixture of the polymer with other polymers present in the composition that comprise one or more salts of amine-functional groups and/or one or more salts of phosphine-functional groups and/or one or more quaternary ammonium and/or one or more quaternary phosphonium-functional groups bound to the backbone of the polymer, comprises a total amount of salt-comprising plus quaternary functional monomer building blocks of 5 to 40 mole%, calculated on the total amount of monomers of which the polymer or the polymer mixture has been built.
6. A coating composition according to any one of claims 3 to 5, characterised in that the coating composition additionally comprises a rosin material as binder material.
7. A coating composition according to claim 6, characterised in that the coating composition has a binder comprising a blend of a rosin material and an auxiliary film-forming resin in a weight ratio of 20:80 to 95:5, the auxiliary film-forming resin comprising 20-100% by weight of a film-forming polymer (A), which is the salt group-comprising polymer having salts of amine-functional groups and/or salts of phosphine-functional groups bound to the backbone of the polymer, said salts comprising as counter-ion the anionic residue of an acid having an aliphatic, aromatic, or alkaryl hydrocarbon group comprising at least 5 carbon atoms, and ~~80-20%~~ **up to 80%** of a non-hydrolysing, water-insoluble film-forming polymer (B).
8. A coating composition according to claim 7, characterised in that the binder comprises a blend of the rosin material and the auxiliary film-forming resin in a weight ratio of 55:45 to 80:20.